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Iburg, Tine Moesgaard; Arnbjerg, Jens; Rueløkke, Mette Lybek

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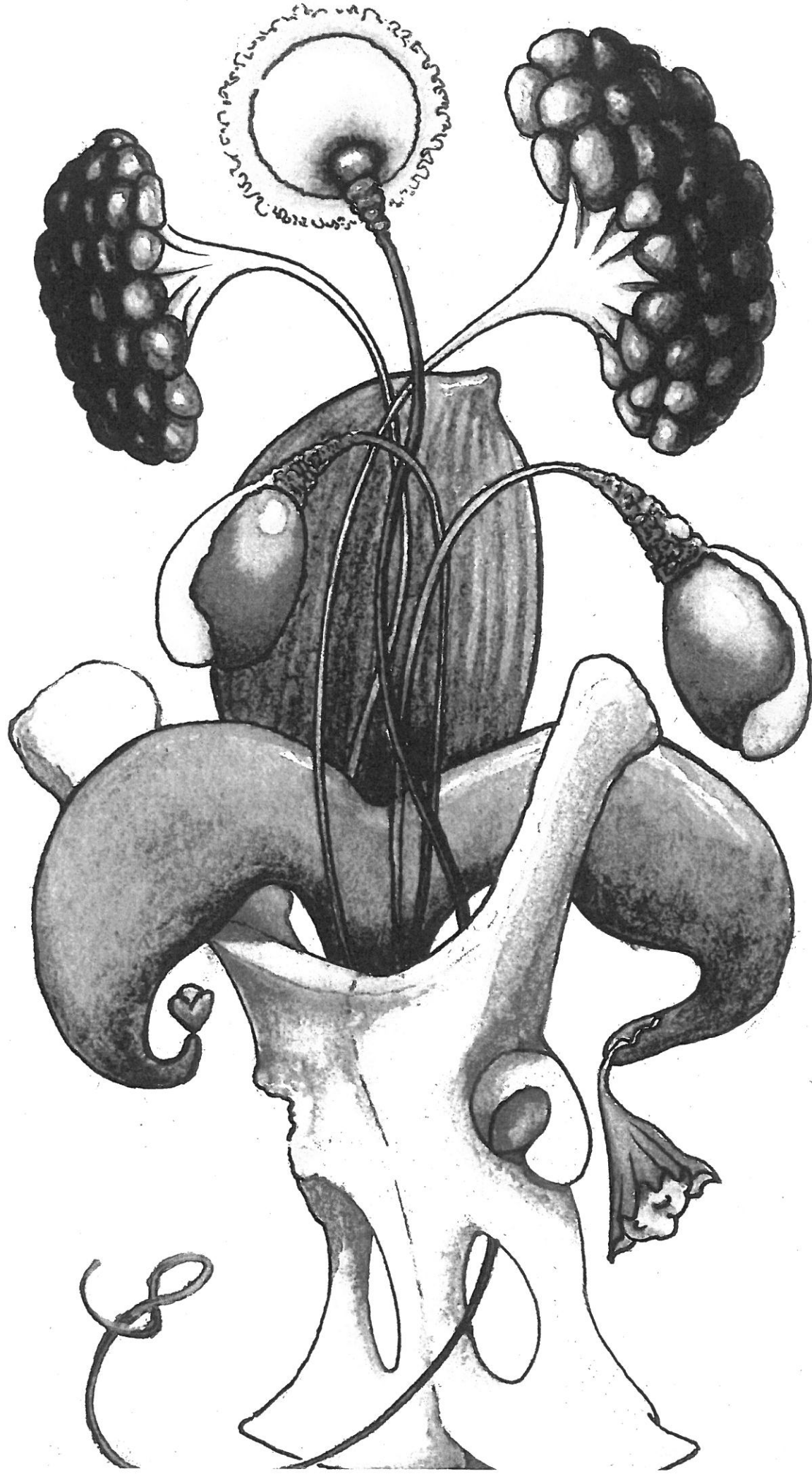
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Perineal glands in guinea pigs – a comparison between sexes

Iburg, T.¹, Arnbjerg J. & Rueløkke, M.L.²

¹⁾ Department of Veterinary Disease Biology, KU LIFE, Denmark ²⁾ Department of Small Animal Clinical Sciences, KU LIFE, Denmark

Perineal glands are part of the sebaceous glandular complex, which consists of the supracaudal gland (coccygeal gland/glandula caudalis), a pair of perineal glands (also called anal glands/perianal glands) and scattered glandular tissue in the anogenital region. It is known that male guinea pigs keep the perineal sac closed except during courtship, aggressive interactions, and in new environments. The glands are used for marking by dragging the open sac over the area that should be marked. This perineal dragging probably act as a home area or individuality marker. Dominant males perform this behavior frequently and females do it only sometimes, which could indicate that glands are present in both males and females. However, very few descriptions exist of male and female anatomy, and anatomy books of the guinea pig anatomy are not consistent in their explanations. A macroscopic study showed that testosterone seems to be important for both the size and function of the perineal glands. Therefore a small study was done in connection with necropsy of guinea pigs anaesthetised in the clinic to compare the anatomy of intact male, female and castrated male guinea pigs.

A total of 12 mature guinea pigs were examined (5 intact males, 2 castrated males and 5 females). At necropsy the perianal area was removed and fixed in 10 % buffered formalin. 2-3 cross sections were made through the entire gland. These sections were processed conventionally and slides 3-4 µm thick were stained with haematoxylin-eosin and examined.

Both sexes had lobulated compound sebaceous glands deep within the subcutis with multiple excretion ducts opening in the perianal sac. Glandular tissue was much smaller in females than in intact males. In both castrated males, the cells of secretory units were smaller and less vacuolated than in intact males and the glandular tissue was infiltrated by fat cells.

- Cooper, G. and A. L. Schiller, 1975: Anatomy of the guinea pig. Harvard university Press, USA.
- Grosz, S., 1905. Über den Perinealsack von *Cavia cobaya* und seine Drüsen. Zeitschrift f. wissensch. Zoologie, **78**, 261-267.
- Harmsen, R. and N. Sittig, 1973. The effect of testosterone on the development of the perineal glands of the guinea pig (*Cavia porcellus* (L.)). J. Exp. Zool., **186**, 269-272.
- Kunkel, P. and I. Kunkel, 1964. Beiträge zur Ethologie des Hausmeerschweinchens *Cavia aperea* f. *porcellus* (L.). Z. Tierpsychol. **21**, 602-641.
- Popesko, P., V. Rajtová, and J. Horák, 1992: A color atlas of anatomy of small laboratory animals. Wolfe Publishing Ltd reprinted by Saunders, London 2002
- Wagner, J. and P. J. Manning, 1976: The biology of the guinea pig. Academic Press, New York.